

SUSTAINED LOGISTICS READINESS FOR PROTRACTED CONFRONTATION

BY

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USAWC STRATEGY RESEARCH PROJECT

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by

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ABSTRACT

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The U.S. is in the midst of a protracted conflict that will impact the nation's defense for generations to come. The Army is engaged in this protracted war while undergoing an expansive reorganization. Strategic decisions made today with regard to how resources are allocated will determine the Army's ability to sustain logistics readiness for combat power engaged in protracted conflict and impact the type Army that will defend the nation for the next generation. How will the confluence of conflict, a new world dis-order of Global War on Terror and Transformation of Forces, impact resource decisions to procure, project and provide logistics at the strategic level? This paper focuses on three areas of logistics at the strategic level that will be impacted by transformation coupled with the protracted conflict and persistent confrontation – the Defense Industrial Base (DIB), Force Projection, and Joint Logistics.

SUSTAINED LOGISTICS READINESS FOR PROTRACTED CONFRONTATION

As we look into the future, national security experts are virtually unanimous in predicting that the next several decades will be ones of persistent conflict – protracted confrontation among state, non-state and individual actors....Many of these conflicts will likely be protracted – ebbing and flowing in intensity, challenging our Nation's will to persevere.

—GEN George W. Casey Jr.
U.S. Army Chief of Staff

The U.S. once again finds itself in the midst of a protracted conflict that will profoundly impact the nation's defense forces for generations to come. The nation's Army is engaged in this protracted war while it is undergoing the most expansive reorganization since WWII. Strategic decisions made today with regard to how resources are allocated will determine the type Army available to defend the nation for the next generation. How will the combined watershed events of protracted conflict and transformation alter resource decisions to procure equipment, generate forces, project forces and provide sustainment at the strategic level? This paper focuses on three areas of logistics at the strategic level that will be impacted by the protracted conflict coupled with transformation – the Defense Industrial Base (DIB), Force Projection, and Joint Logistics.

Since its inception, the U.S. has been averse to maintaining a large standing Army. Following conflicts, the U.S. would drastically cut its armed forces, maintaining only a small active force that could expand during time of war. The U.S. was able to maintain this modus operandi based on its geographic location with secure borders north and south and oceans east and west preventing attacks by major powers on the continental U.S. The geographic location, in addition to a wealth of natural resources and robust industrial base, permitted the U.S. to mobilize for war in relative safety. The

U.S. took full advantage of this during WWII demonstrating the most striking display of the nation's inexhaustible resources and its ability to produce and move, over an extended period of time, mountains of equipment and materiel to support the war.¹ After WWII, the U.S. found itself in a leadership role on the world stage for the first time in its history. Despite this new leadership role in the world, the Army demobilized hundreds of units, continuing the pattern of "binge and purge"² with regard to military preparedness. The defense industrial base shrank, units were hollowed out and the U.S. Army found itself ill prepared for the Korean War and could not quickly respond as a world leader in that crisis situation. "The President and the American people had only ten Army divisions, and nine separate regimental combat teams, all of which, except one in Europe were at 70 percent strength."³

While the lessons of WWII and Korea were captured in numerous After Action Reviews and books, corrections were not implemented and the Army found itself ill prepared for the Vietnam War. The loss of the war in Vietnam had a profound affect on the nation, the Army and its junior leaders who vowed to ensure the Army would be prepared for its next battle. During the Reagan build up in the 1980s, those junior leaders had advanced to senior leadership positions and focused on ensuring the Army was prepared for the next battle. That next battle, Operation Desert Storm, was hailed as a modern marvel – never before had a military moved as many personnel and as much equipment in such a short period of time over such vast distances. The combat forces executed a magnificent campaign; however, even with the improvements in equipment, transportation and automation in the interwar period, logisticians faced challenges similar to WWII, Korea and Vietnam. For example, to prepare for the ground

war, a requirement of 60 days of supply for combat forces was established.⁴ The result was that it “took six months to stage the forces and supplies needed for the operation. It took another 13 months to withdraw the “Iron Mountains” of unneeded supplies pushed forward in the preparation phase.”⁵

The fall of communism in Europe coupled with the rapid victory in the Gulf War fundamentally changed the international security environment and the U.S. Army struggled with maintaining relevance while its civilian masters debated the requirement for a large standing Army and “cashing in” the Cold War’s peace dividend. Why do we need a large, expensive Army? Who will they fight? Where will they fight and how will they fight? All were questions few could provide cogent answers to. To address the new world dis-order the Army began to transition from its “Cold War” force structure to an undefined “objective force”. The Army set forth on its transformation to a smaller, more mobile force and struggled to justify expensive programs and maintain funding for force structure and transformation changes with peace breaking out in the world. During this period, the U.S. economy was undergoing a significant transformation as well, from an industrial based economy to a service and technology based economy. This convergence of events had profound implications for the defense industrial base and the U.S. military as a whole.

The attacks of September 11th had a dramatic affect on the U.S. In the internet world with instant access to information, streaming video and 24 hour news cycles, the American people expected a swift response to the attack on the homeland. No longer could the U.S. rely on secure borders to deter attacks on the continental U.S. or have the luxury of relative security and time to mobilize its forces and industry for war. The

world and the threat facing the U.S. had changed. After September 11th, the military enjoyed an influx of money to fight the Global War on Terror (GWOT)⁶ – another binge cycle. However, this time, the Army had to fight the current war while continuing to transform its forces. While mindful of the nation’s propensity to follow a feast or famine cycle with regard to military preparedness following conflicts, the U.S. cannot repeat past mistakes regarding logistics capabilities and expect to have a robust force capable of swiftly responding in crisis situations, fighting and winning the nation’s wars. The challenge at the strategic level is to make decisions that not only meet the immediate requirements of today’s conflicts but also set the conditions for sustaining the force now and for the next several decades of persistent conflict and protracted confrontations in a constant period of “warm” and “hot” war, maintaining the ability to project and sustain military power with minimal time to respond in crisis situations.

Ensuring a Viable Defense Industrial Base for the Long War and Beyond

The Defense Industrial Base (DIB) underwent significant changes as a result of the military drawdown following the fall of communism and the shift of the U.S. economy from an industrial based economy to a service and technology based economy. Since the 1980’s the U.S. defense industrial base underwent a massive consolidation from over fifty major suppliers to only five major suppliers in 2000⁷. In 1997, Congress recognized the transition in the industrial base and its possible impact on defense readiness and began requiring annual reports to assess the ability of the DIB to support and sustain military requirements, called the Annual Industrial Capabilities Report to Congress.⁸ The cycle of massive build up and extreme reductions since WWII negatively impacted the defense industrial base and set the conditions for the Army to

enter the Global War on Terror “flat-footed with investment accounts underfunded by approximately \$100 billion, resulting in nearly \$56 billion in equipment shortages across the Army.”⁹ The Global War on Terrorism identified the defense industrial base’s strengths and achievements as well as its weaknesses and limitations. Understanding the limitations of the industrial base given the protracted conflict and the asymmetric threat the U.S. now faces, the Deputy Under Secretary of Defense for Industrial Policy, ODUSD (IP), directed a series of studies, in addition to the Annual Industrial Capabilities Report to Congress, to specifically assess critical technologies needed in the 21st Century DIB to meet war fighter capabilities. The initial Defense Industrial Base Capabilities Study (DIBCS) findings are that the defense industrial base is healthy and robust.¹⁰ However, the DIBCS identified three risks that must be understood with regard to globalization and today’s multinational companies with global supply chains: technology security, assurance of supply, and congruence of strategic interests.¹¹ The risk of technology security is well understood and the U.S. has a long track record of working to control and protect technology transfers. Assurance of supply and congruence of strategic interests, however, take on a new dimension when facing an asymmetric threat or fighting an unpopular war. The U.S. policy of preemptive war in Iraq has led to concerns that foreign nations might restrict or preclude defense articles for DEPARTMENT OF DEFENSE (DOD) applications during internationally unpopular engagements.¹² This was demonstrated when Representative Duncan Hunter, R-CA stated that “When a Swiss company cut off the critical component for our smart bombs, only one U.S. company remained which could supply it.”¹³ At the time, it was thought that the Swiss government halted supplies due to its opposition to the war. Contrary to

popular belief, the “Swiss government did not halt shipments of a crystal needed for the Joint Direct Attack Munition (JDAM) because of opposition to Operation Iraqi Freedom. Shipments were delayed because of a misunderstanding on the part of a single Swiss company and no JDAM shipments were delayed.”¹⁴ However, this event highlights the issue that the U.S. is dependant on companies in other nations that could refuse to supply critical items. The April 2006 Foreign Sources of Supply: Assessment of the United States Defense Industrial Base Study did conclude that currently “DOD employs foreign contractors judiciously and in a manner consistent with national security requirements.”¹⁵ The study also points out that “foreign suppliers represent less than one percent of all DOD contracts and only about 2.4% of DOD contracts for defense articles and components with the top five nations (by value) of DOD contracts (Canada, UK, Saudi Arabia, France and Israel) are long-standing, reliable trading partners of the United States.”¹⁶

The Foreign Sources of Supply assessment has its shortcomings. It reviewed only prime contractors, not the subcontractors that supply critical components. While the Foreign Sources of Supply study states that the DIB is healthy and robust, further assessments must not only continue but should focus attention on subsystems understanding “that a system can fail for lack of a structural or supporting component that does not directly enable the sought-after warfighter capability.”¹⁷ The DIBCS Focused Logistics study points out, in the world of global supply chains, “it is not feasible for DOD to conduct detailed assessments of every component used in defense systems.”¹⁸ This poses a risk to assurance of supply and must be understood and mitigated. In today’s global economy, the U.S. will continue to rely on global supply

chains and foreign sources of supply and this system has the inherent risk of a foreign government halting supplies if it does not agree with U.S. policy. Another risk to this system is that a terrorist strike against a DOD supplier in Europe, “home to the world’s largest Muslim diasporas,”¹⁹ or other country could result in loss of a key supplier that would delay or disrupt DOD’s supply chain and directly impact combat operations. The DIBCS study focused only on cutting edge technology and areas where the U.S. military needs to maintain a leading edge in the ability to produce and procure those technologies, not on the industrial age technology such as the munitions base. While the study provides positive results for many DOD contracts, the industrial base is and will continue to be an area of concern in the future. With the effects of globalization forcing companies to minimize production costs coupled with the dramatic expansion of information systems, former barriers that protected the defense industrial base no longer exist and this introduces a new risk to military operations. Transition to a more integrated and interdependent global supply chain will not stop. In fact many are pushing for a reduction in the buy American Act and further consolidation of the defense industry to ensure competitiveness and innovation.²⁰

The emphasis on cheaper production costs together with information age technology available on a global basis continues to pressure the defense industrial base and those companies that are part of it to leverage global production capabilities. This increases risk to the military and DOD’s ability to ensure sustainment for wars that may not be supported by countries where components are produced. Regrettably, the study did not address the current asymmetric threats to the global supply chain and the impact an attack could have on a country’s willingness to continue to provide critical

components or sustainment supplies to the U.S. This aspect must be assessed. A sample assessment should be conducted to determine the DIB's vulnerability to asymmetric threats conducted against DIB suppliers located in other countries to determine the availability of alternate sources of supply to assess the flexibility of the DIB and risk associated with foreign sources. The identified weaknesses in the study mandate that U.S identify and understand the risk associated with the global supply chain and remain vigilant to ensure the resilience and flexibility of the industrial base especially in the era of asymmetric warfare and terrorist threats using an indirect approach to bleed support for a long war.

It is clear that the DOD and the Army must have a definitive understanding of the requirements for the defense industrial base and its steady state following conflict in order to retain critical capabilities and to surge in the support of a major theater war. DOD must continue to study the industrial base, identifying risks to providing assured sustainment and ways to mitigate those risks either through maintaining government facilities to produce required items or by ensuring availability to alternate sources for common items. DOD will always contend with limited resources, however, when resources are available, as they are now, strategic leaders must allocate those to ensure the ability to respond quickly in future crisis operations. Additionally, there are some core industrial age items and capabilities that must maintain production capacity within the US, specifically ammunition, to ensure the military does not find itself unable to conduct operations. Here too, there are issues that must be addressed to sustain the industrial base.

There is no better example of economic decisions resulting in an industrial base shortcoming than that of the U.S. ammunition industry of the '80s and 90's. "Between 1985 and 1994, DOD funding for procurement of ammo declined by 80%. More than 70% of firms that had participated in the manufacture of munitions exited the field, ranks of the highly skilled workforce were similarly decimated."²¹ From 1995 to 1996, Office of the Secretary of Defense increased the munitions budget for the out years 1996-2002; however, this was too little, too late for the ammo required to support operations in the unforeseen operations in Iraq and Afghanistan.²² The result was a shortage of small arms ammunition and the requirement to dramatically increase production capacity at Lake City Ammunition Plant by retooling the 60 year old plant. In 2000, Lake City was producing about 350 million rounds a year, today, after measures in extremis were taken to increase capacity, it is producing 1.2 billion rounds per year.²³ Additionally, the Army was required to take extreme measures to make up for the shortfall in production until the Lake City capacity could be increased. Those measures included "buying 130 million rounds of small arms ammunition from Britain's stockpile in June 2003 and awarding a contract in December of 2003 for 70 million rounds of 5.56mm and 7.62mm to Winchester Ammunition and Israeli Military Industries."²⁴ Even though production capability has increased, many munitions production capabilities remain one deep, for example, "the entire small-arms production capability of the U.S depends on production of nitrocellulose...the continuing operation of an aging and technologically antiquated acid production facility at Radford Army Ammunition Plant in Virginia is critical...should this single acid production facility be shut down, it could have serious consequences for the production of ammunition and, hence, for U.S. military

operations worldwide.”²⁵ Loss of the nitrocellulose capability at Radford would result in the U.S. relying solely on Japanese, German, Chinese or French companies for supply of a critical component for ammunition production. Decisions made, as the scope of the Operation Iraqi Freedom/Operation Enduring Freedom (OIF/OEF) decreases ammo consumption, must ensure the ammunition base remains capable, competent and responsive while financially viable – there must be a plan for a “soft landing.”²⁶

With the amount of money committed to the GWOT, OIF/OEF and the reset of the forces, the critical task for strategic leaders is to plan and execute programs that result in a reliable, cost-effective industrial base capable of meeting strategic objectives now and in the future. To achieve this goal, sufficient capacity must be built into the U.S. deployment and sustainment pipeline; sufficient control must be exercised over the pipeline from end to end; and a high degree of certainty must be provided to the supported joint force commander that forces, equipment, sustainment and support will arrive where needed on time.²⁷ Additionally, the munitions industrial base can not atrophy to the point that it can not surge to provide critical munitions in a time of war. DOD must provide a clear plan and a forecast that industry can finance, in conjunction with the remaining contractors for a “soft landing” in munitions manufacturing while maintaining a capability to surge. Strategic leaders must make informed decisions when planning the next military drawdown to “right size” not only the force but also the defense industrial base – if the U.S. is to remain the arsenal of democracy.

Force Projection: The Inexhaustible Staying Power of an Expeditionary Force:

OEF/OIF highlighted the difficulties faced when deploying forces and equipment to remote locations constrained by limited ports, routes and infrastructure. The Combatant

Commander was limited by forces available due to the ability to move and assemble combat power in theater. The U.S. must be able to project forces to distant lands where it intends to conduct full spectrum operations from humanitarian assistance to combat operations. OIF/OEF and GWOT demonstrated that while U.S. forces may not know exactly where they are going to fight, they do know that the Lines of Communication (LOCs) will be long and the area will likely have poor or nonexistent road, rail, air and sea port facilities. The road, rail, air and sea port infrastructure available will constrain the military's ability to provide forces and sustainment. Reliance on limited routes provides enemies an opportunity to delay and disrupt operations through very low tech means (Improvised Explosive Devices (IEDs), damaged/destroyed ports and bridges). The long war highlighted the requirement for a robust capability to continuously deploy, sustain, and redeploy forces in a perpetual rotation to support "warm and hot" conflicts with an expeditionary Army in remote corners of the globe.

As a result of transformation and the new world dis-order, the Army moved away from forward deployed forces toward a majority of forces based in the Continental U.S. (CONUS) to project forces for crisis situations. The Army developed the Army Forces Generation (ARFORGEN) concept to sustain combat power in a theater of operations. Moving away from a half century of forward deployed forces toward the CONUS based force that is expeditionary in nature requires increased strategic deployment/sustainment/retrograde/redeployment capabilities.

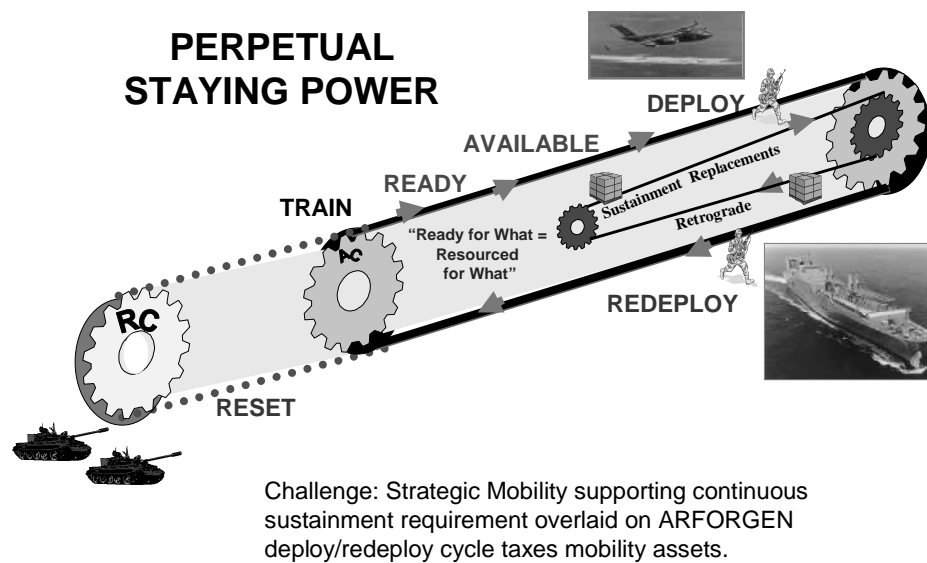


Figure 1. ²⁸

To enable this two-way force projection and sustainment structure and its inherent mobility requirements, new and innovative ways and means must be adapted to reduce costs, increase efficiency and provide the ability to reach key trouble spots that are far from established lines of communication.²⁹ In order to support the increased requirements on the Defense Transportation System resulting from this shift to CONUS based forces to move troops and materiel more frequently over greater distances, this era of persistent conflict and protracted confrontation demand the U.S. improve its ability to project power, provide sustainment, retrograde equipment and redeploy forces indefinitely to areas with limited infrastructure and LOCs. There are several options available to U.S. forces to improve the ability to deploy and sustain forces in areas that have limited infrastructure. They include; reducing the lift requirement by accepting a lighter force, accepting a slower deployment, or developing the requirement for and

obtaining innovative technology to address the shortfall in strategic lift.³⁰ The first two options have been studied by the Congressional Budget Office and determined that they would reduce deployment times of large forces only to a limited extent.³¹ The third option addresses a current strategic shortfall/gap in capabilities. With only limited mobility to reach remote locations, U.S. forces accept significant risk in the ability to react in crisis situations and conduct sustained operations. In order to gain transformational improvements in strategic mobility, the U.S. requires a platform with truly revolutionary capabilities. Instead of relying solely on fixed/rotor wing air transport with limited payloads, significant fixed infrastructure and large fuel requirements, innovative new designs and technology are required. The DOD as a whole lacks creative and new thinking necessary to shape future concept of operations for vertical systems. "The concern is...we're fielding essentially the same kind of aircraft with the same characteristics as in the past. We've contributed to behavior in the industry where we've invested heavily in existing platforms or building new versions of existing platforms."³² A paradigm shift is in order and technology improvements in Lighter Than Air (LTA) platforms (aka blimp, dirigible) should be explored to address the strategic lift shortfall. A heavy lift airship with a large payload could dramatically increase the military's ability to respond to situations throughout the globe. The gains in payload are significant, an airship that could carry up to "200 tons is feasible and would equate to three C5s or four to five C17 transports in terms of capacity."³³ A heavy-lift airship of this capacity would significantly increase deployment capability and reduce fuel requirements thus limiting logistics footprint. Additionally, it could eliminate the requirement for an Intermediate Staging Base (ISB). Equipment/personnel could be

picked up at point of origin and transported directly to theater bypassing ISBs and eliminating the requirement to transload personnel and equipment thus reducing time to deploy. This capability would enable modular forces to deploy personnel and equipment over great distances and employ them in areas with limited infrastructure bypassing constrained/impassible routes. This improves security, reduces risk and increases operational reach. LTA airships do have constraints; however, those limitations are comparable to fixed-wing and rotor air transport and can be mitigated.³⁴ The U.S. has the dominant Air Force in the world and will have air superiority/supremacy in locations where its forces are deployed thus making LTA airships a viable alternative to cargo aircraft and helicopters.

The U.S.' dominance in air power allows it the opportunity to take advantage of additional strategic lift capabilities that have the ability to move large quantities of supplies and equipment with little or no infrastructure. As long as the U.S. maintains air supremacy in a theater, it can take advantage of the capabilities offered by LTA airships. This could provide a dramatic reduction in convoys and the high cost of security for convoys. It would also reduce dependence on airfields and having forces fixed to airfields improving the agility of its forces and decreasing security requirements. New ways of projecting forces are required to sustain this protracted conflict. LTA airships could offer a viable, cost effective means to project forces and sustainment while reducing operating costs and security requirements and should be pursued as a force enabler.

DOD dedicates an inordinate amount of resources to plan, prepare and execute deployment operations. However, the same detailed concept of operations was not

developed for the retrograde and redeployment required to sustain a protracted conflict. DOD must codify modifications to its process to address the “two-way deployment” of forces placing equal emphasis on getting personnel and equipment from theater as well as to theater. Codifying retrograde and redeployment processes for forces and equipment developed as a result of the protracted conflict would ensure maximum use of strategic transportation assets in both directions. DOD continues to improve its processes in this area as the protracted conflict continues, however, this lesson learned must become ingrained in its culture.

Joint Logistics: Automation may be the last Stovepipe

The protracted conflict is acting as a forcing function for joint logistics – what Goldwater-Nichols started; the Global War on Terrorism is driving to fruition. The services, as a result of the long war, are more joint and co-dependant than any time since Goldwater-Nichols passed, relying on each other to project forces, conduct and sustain combat operations. The benefits of joint operations are not new, logisticians have recognized for some time that a “joint logistics” system would create synergy, gain economies of scale, and reduce costs and the logistics footprint. The J4, LTG Christianson stated “The necessity of joint logistics is widely accepted throughout the DOD logistics community, and no one I know would disagree that the effective delivery of logistics support is essential to the JFC [Joint Force Commander], our ultimate customer.”³⁵

A type of joint logistics system was envisioned in 1996, when Joint Vision 2010 was published. Joint Vision 2010 identified Focused Logistics as one of four operational concepts and defined it as “the fusion of information, logistics and transportation

technologies to provide rapid crisis response, to track and shift assets even while en-route, and to deliver tailored logistics packages and sustainment directly at the strategic, operational and tactical level of operations. It will be fully adaptive to the needs of our increasingly dispersed and mobile forces,focused logistics will enable joint forces of the future....it will require less continuous support with a smaller logistics footprint, decreasing vulnerability of our logistics lines of communication.”³⁶ However, this vision of Focused Logistics falls short of a true joint logistics system and reflects parochial service logistics equities by not stipulating a truly joint, interdependent system of logistics support where units could “plug into” the nearest logistics hub, regardless of service, and receive support. The services made only limited progress in the area of joint logistics between the publication of JV 2010 in July 1996 and the beginning of OIF/OEF.

Although DOD has understood the benefits of developing and implementing joint logistics systems, service logistics communities have been hidebound by service specific interests, stovepipe logistics structures and service specific automated supply support systems designed to operate independently. The result of stovepipe service systems, as MG Juskowiak stated succinctly is “we don’t have joint logistics to support the joint force commander”³⁷ in OIF/OEF. His point is clearly demonstrated by facts on the ground in Iraq – “Although the Army has executive-agent responsibilities for many logistics functions that support all forces in Iraq, each service continues to maintain its own stovepipe systems, which are often redundant and compete for the same limited resources. In the western portion of Iraq during OIF 3 at Forward Operating Base Taqaddum, the Army had a Forward Support Battalion, a Corps Support Battalion and

the Marines had a Field Service Support Group.”³⁸ All three organizations had organic Supply Support Activities (SSAs) to support their customer units. Requisitions from the Forward Support Battalion and the Corps Support Battalion were passed to theater and the supplies were transported from Kuwait by ground or from CONUS by air to the SSAs. This occurred even though the supplies requisitioned might have been located on the other side of the base at Taqaddum as part of the Marine’s 25,000 line Supply Support Activity.³⁹ The supplies shipped from Kuwait or CONUS took space on limited transportation assets -- space that could have been used for other materiel, thus reducing the transportation requirement as well as risk to Soldiers and civilians through reduced air mission and convoy requirements. A similar reduction in redundancy could have been achieved at Balad where a similar organizational structure existed with the Air Force having a Support Group collocated with Army support battalions.⁴⁰

To effectively support the JFC, DOD should, in the near term, develop a Joint Logistics System (JLS). The JLS would have interoperable automated systems as well as own transportation and sustainment from strategic to the operational level and provide the outlet for the tactical level BCT/RCT to plug into. This would improve logistics support in the near term and reduce redundancy. A long term goal should be the creation of a Joint Logistics Service to provide a seamless sustainment link from the strategic level to a tactical outlet for the tactical units to “plug” into. This revolutionary measure is required to break the logistics logjam and streamline the flow of support to the JFC. Once the reduction in funding occurs as OIF/OEF operations are reduced, DOD may no longer be able to afford the luxury of service specific logistic system. A rapid paradigm shift must occur from service stovepipe logistics to a Joint Logistics

System and then a Joint Logistics Command as gradual reform would only provide a convenient excuse for the services and their ingrained bureaucracies to change nothing at all. To support this transformation, joint automated supply systems that share data must be developed to lessen the burden on an already taxed system. Doing away with “stovepipe” systems and organizations through the implementation of a truly joint logistic system would reduce costs and burden on an already strained system. Just as the services have progressed from “Just in Case Logistics” system of Korea, Vietnam and Desert Storm to “Just In Time Logistics”, DOD must now progress to a joint logistics system and develop “Just Joint Logistics.” This requires a Joint Logistics Service with joint automation systems and Tactics, Techniques and Procedures (TTPs) for Brigade Combat Teams, Regimental Combat Teams and Wings to plug into joint support elements. In Transit Visibility (ITV) must be enhanced to provide near real time information for commanders to make decisions and ingrain trust and confidence in the logistics system. Just as commercial companies send order status and shipping information to customers, the services’ automated system should push supply status and shipping information to the requesting unit. This would increase confidence in the system, minimize duplicate requisitions and do away with sustainers having to constantly pull information. Accurate, near real time status would reduce the number of multiple requisitions for an item; reduce cost, excess and the burden on the supply system. Once commanders and sustainers, down to the supply sergeant level have trust in the system, DOD could reduce the number of requisitions, cost of excess and reduce transportation requirements increasing speed and improving support to the Joint Force Commander.

This protracted conflict has resulted in a generation of combat leaders that recognize the benefits and efficiencies that can be gained through joint logistics operations. These leaders with joint tactical and operational experience understand that systems need to change and that service parochialisms result in inefficiencies and compete for scarce resources. This protracted conflict has provided a window of opportunity to drive change in the services to develop a Joint Logistic System and test it in the battle labs of Iraq and Afghanistan.

Logisticians have become more joint, combined and multinational focused, but we must seal the deal with a Joint Logistics Service and mastery of automation systems and processes to accomplish truly seamless operational support with the ultimate goal of a Joint Logistics Command.

Conclusion

These are dynamic and challenging times for America and its Army. "The Army is conducting missions in perhaps the most dangerous period of our lifetime. America's interests are threatened by an array of traditional, irregular, catastrophic and disruptive challenges."⁴¹ The Army must be prepared to continue its missions worldwide and execute increased commitments. This must be done in a resource constrained environment. How well the Army is able to accomplish its missions depends on how well strategic leaders allocate limited resources to sustain current operations as well as provide resources to position the force for the next fight. The decisions made with regard to the Defense Industrial Base modernization and depth, capabilities for force generation and force projection and seemingly inexhaustible sustainment of deployed

forces in a joint environment will determine the Army's ability to accomplish these missions.

Decisions made with regard to the DIB modernization and depth must take into account global supply chains, multi-national corporations as well as economic viability of defense specific industries and technology to right size the DIB for sustained support to the force. The resource decisions must be made to enhance capabilities, flexibility and resilience of the DIB as well as support competition to reduce cost and drive innovation. Failure to correctly allocate resources and capitol investment in the DIB could result in an Army ill prepared to conduct combat operations in a crisis situation or "hot" conflict. Tough decisions with regard to resource allocation will ensure a robust, viable DIB and the ability to invest in future systems without "eating the seed corn" required to advance capabilities for the future.

DOD must improve its ability to project forces and provide sustainment to remote areas throughout the globe in an efficient, effective manner to reduce costs and improve operational reach. Additionally, DOD must codify lessons learned during the long war on its "two-way" deployment system to provide perpetual combat force generation and force sustainment. In order to accomplish this, it must invest in revolutionary technologies for strategic mobility and modify deployment/redeployment planning and execution systems.

The long war has driven services to become more joint and interdependent. To enhance gains in joint operations, DOD must develop a true joint logistics system to support the Joint Force Commander and leverage service capabilities to gain efficiencies, reduce stress on the system and costs. To accomplish this, DOD should

develop a Joint Logistics Service with interoperable automation systems, to control transportation and sustainment from strategic to operational level providing the outlet for the tactical units to plug into. To enable the Joint Logistics System, stovepipe sustainment automation systems must be revised to support all services. The stretch goal must be a Joint Logistics Command with command and control from the Strategic through the operational level to provide a sustainment outlet for tactical forces to plug into. This bold paradigm shift can streamline the logistics system and provide cost reduction that will be required once budget reductions occur.

Additionally, the DOD and the Army must not only learn lessons from the current conflict, it must implement them to become a truly joint, expeditionary force in order to effectively sustain forces on the modern battlefield and leverage joint partners to accomplish the mission. “To prosecute the Long War and sustain our full range of global commitments, the nation is counting on the Army’s ability to be ready for the next fight or mission. To succeed in current battles and future challenges, the Army relies on logisticians to deliver materiel readiness to soldiers in austere places over extended and dangerous lines of communication.”⁴² In order to accomplish this, the nation must move from its habitual practice of “binge and purge – the cycles of mobilization and disarmament that have marked U.S. history for nearly a century” – to a sustained logistics readiness model to defeat enemies in this time of persistent conflict and protracted confrontation. Clear thinking and tough decisions are required by strategic leaders to allocate constrained resources to prevent mistakes of the past that could result in the waste of lives and materiel by not being prepared to properly equip, project and sustain forces.

Endnotes

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